

Device comprising membrane-structured polymers with solid particles incorporated there-in.

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Inventor: SCHARF GERHARD (DE)
Applicant: BEHRINGWERKE AG (DE)
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A device comprising a water-stable, preferably sheet-like polymer, having a membrane structure and incorporated solid particles, in which these particles are preferably absorbent and in which one reactant of a chemical reaction is bound to these particles.

Such a device can be used as an analytical device and in particular as a testing device.

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㉚ Anmelder:
Birzer, Michael, 8780 Gemünden, DE

㉚ Erfinder:
gleich Anmelder

⑤4 MEP-AIDS Mittel

Bei der Erkrankung AIDS bricht die Immunabwehr des Körpers zusammen. Durch Kombination von

- Myristica sebifera
(Baumrindensaft des Talg-Muskatnußbaumes)

- Echinacea
(Sonnenhut)

- Phytolaga
(Wurzel der Kermesbeere)

wird eine Steigerung der Immunreaktion gegen AIDS-Erreger erreicht.

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Patentanspruch

AIDS-Mittel, enthaltend:

- Sonnenhutpflanze (Echinacea)
- Baumrindensaft des Talg-Muskatnußbaumes (Myristica sebifera)
- Wurzel der Kermesbeerenpflanze (Phytolaga)

Beschreibung

Bei der Erkrankung AIDS bricht die Immunabwehr des Körpers zusammen. Diese Erkrankung führte bisher nach langem Leiden zum Tode. Viele Menschen sind Träger des AIDS-Erregers ohne daß diese Erkrankung ausbricht weil das Immunsystem noch funktioniert.

Die Aufgabe der Erfindung besteht darin ein Mittel zu finden, das bei AIDS eine Anregung der Immunabwehr bewirkt.

Gelöst wird die Aufgabe durch verabreichung der Arzneimittelskombination:

- Myristica sebifera (Baumrindensaft des Talg-Muskatnußbaumes)
- Echinacea (Sonnenhutpflanze)
- Phytolaga (Wurzel der Kermesbeere)

in Form von Spritzen, Tee, Tropfen, Tabletten usw.
Durch Kombination dieser Mittel kommt es zu einer Steigerung der körpereigenen Immunabwehr wobei eine starke Immunreaktion gegen den AIDS-Erreger erfolgt und somit diese Krankheit gestoppt wird.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A therapeutic composition comprising the following active ingredients:
a plurality of vitamins and/or provitamins, including a synergistic
combination of at least two vitamins from the Vitamin B group;
one or more amino acid metal chelates;
Echinacea extract;
Ginkgo biloba extract;
one or more antioxidants;
together with a pharmaceutically acceptable carrier vehicle.
2. A therapeutic composition according to claim 1, wherein said vitamins and/or
provitamins include Vitamin B12 (cyanocobalamin or cobalamin) and Vitamin Bc
(folic acid or folate), said amino acid chelates include calcium amino acid chelate, and
the amount of calcium derived from the calcium amino acid chelate is synergistically
balanced with the amounts of Vitamin B12 and Vitamin Bc.
3. A therapeutic composition according to claim 1 or 2 substantially as described
herein.

Dated this 21st day of February, 1997

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In this composition, the amount of calcium derived from the calcium amino acid chelate is synergistically balanced with the amounts of Vitamin B12 and folic acid/folate to provide maximum bioabsorption.

- 5 While the present invention has been described in terms of a preferred embodiment in order to facilitate better understanding of the invention, it should be appreciated that various modifications can be made without departing from the principles of the invention. Therefore, the invention should be understood to include all such modifications within its scope.

10



Potassium iodide (equiv 15µg iodine)	20µg	0-0.01
Potassium gluconate (equiv 10mg potassium)	60mg	0-20
Chromic chloride (equiv 10µg chromium)	51.3µg	0-0.02
Copper gluconate (equiv 10µg copper)	72µg	0-0.025
Selenium	nil	0-0.0015
Cysteine hydrochloride	50mg	0-17
Choline bitartrate	25mg	0-4
Inositol	25mg	0-4
Bioflavonoids	25mg	2-8
<i>Pinus pinaster</i> (Maritime pine) bark Ext	nil	0.8-8
<i>Vitis vinifera</i> (Grape) seed Ext Equiv 1.8g dry	15mg	
<i>Petroselinum crispum</i> (Parsley) herb dry	30mg	0-8
<i>Allium sativum</i> (Garlic) bulb Ext conc. Equiv 35mg dry	2.92mg	1.2-9
<i>Vaccinium myrtillus</i> (Bilberry) fruit Ext Equiv 500mg dry	5mg	
<i>Tilia cordata</i> (Lime) flower Ext Equiv 70mg dry	10mg	
<i>Echinacea purpurea</i> (Echinacea) root Ext Equiv 100mg dry	25mg	1.5-4
<i>Ginkgo biloba</i> (Ginkgo) leaf Ext Equiv 60mg dry	1.2mg	0.08-0.4

TOTAL WEIGHT OF TABLET ACTIVES:

733.6mg

EXCIPIENTS: Tableting aids est.

501.6mg

TOTAL WEIGHT OF TABLET est.

1235.2mg

* AAN = Australian Approved Name

** NAN = Non-Approved Name

EXAMPLE

Preferred ranges of ingredients, as well as the specific amounts used in the Example, are specified below:

5

INGREDIENT AAN*/IDENTITY/ PRESENTATION ACTIVES:	QUANTITY PER TABLET	PREFERRED RANGE
Retinol (Vitamin A)	nil	0-0.05
Beta-carotene (Provitamin A-NAN**)	2.0mg	0.15-1.7
Thiamine hydrochloride (Vitamin B1)	500µg	0-0.15
Riboflavine (Vitamin B2)	800µg	0-0.25
Nicotinamide (Vitamin B3 - NAN**)	25mg	0-8
Nicotinic acid (Vitamin B3)	nil	0-0.8
Calcium pantothenate (Vitamin B5)	50mg	0-8
Pyridoxine hydrochloride (Vitamin B6)	1.0mg	0-0.8
Cyanocobalamin (Vitamin B12)	1.0µg	0-0.001
Ascorbic acid (Vitamin C)	200mg	8-40
Cholecalciferol (Vitamin D3)	6.1µg	0.0004-0.002
d-Alpha-Tocopherol (Vitamin E)	21mg	0.8-4
Biotin (Vitamin H - NAN**)	30µg	0-0.01
Folic acid (Vitamin Bc - NAN**)	75µg	0-0.013
Zinc amino acid chelate	8mg	9-45
(equiv 1.6mg zinc)		
Iron amino acid chelate	26mg	
(equiv 2.6mg iron)		
Magnesium amino acid chelate	25mg	
(equiv 5mg magnesium)		
Calcium amino acid chelate	50mg	9-45
(equiv 10mg calcium)		
Manganese amino acid chelate	10mg	9-45
(equiv 1mg manganese)		

Preferably, various components of the composition will be present in the following percentages by weight of the total composition

	Beta-carotene (Provitamin A)	0.15-1.7
5	Ascorbic acid (Vitamin C)	8-40
	Cholecalciferol (Vitamin D3)	0.0004-0.002
	d-Alpha-Tocopherol (Vitamin E)	0.8-4
	Amino acid metal chelates	9-45
	Bioflavonoids	2-8
10	Echinacea extract	1.5-4
	Ginkgo biloba extract	0.08-0.4
	Proanthocyanidins and other antioxidants	2-17

The invention will now be further described with respect to the following Example, which is illustrative but not restrictive of the present invention.

Amino acid metal chelates are used as sources of metal ions. Examples of amino acid metal chelates which may be used in the compositions of the present invention are zinc amino acid chelate, iron amino acid chelate, magnesium amino acid chelate, calcium amino acid chelate and manganese amino acid chelate.

5

Echinacea extract is an immune system stimulant.

Ginkgo biloba extract stimulates the circulatory system.

10 Any therapeutically useful antioxidants may be used in the compositions of the present invention. Preferred antioxidants are Proanthocyanidins (which may be obtained from pine bark extract or grape seed extract), Pycnogenol™, garlic extract, bilberry extract and lime flower extract.

15 Pycnogenol™ is a mixture of polysaccharides (proanthocyanidins, anthocyanidins, anthocyanosides and glycosides) which act as antioxidants and are able to cross the blood-brain barrier. It is extracted from grapes, cranberries, beans, other fruits and vegetables, and (in particular) the maritime pine (*Pinus pinaster*). Pycnogenol™ potentiates the beneficial effects of Vitamin C, improves circulation, helps prevent heart disease and combats the pain of arthritis.

Various of the vitamins already mentioned (Provitamin/ Vitamin A, Vitamin C and Vitamin E) may also be used as antioxidants in the compositions of the present invention.

25

Bioflavonoids are hemostatic agents, which have been used in the treatment of capillary fragility.

Cysteine has detoxification properties.

30

Choline is a nutritional and lipotropic factor.

Cyanocobalamin or Cobalamin (Vitamin B12) assists calcium uptake into bones. Its deficiency can result in pernicious anaemia.

5 There are some health concerns regarding administration of folic acid, in that it can mask the symptoms, but not the adverse health effects, of Vitamin B12 deficiency. Accordingly, it is preferable to administer a combination of Folic acid or Folate (Vitamin Bc) and Cyanocobalamin or Cobalamin (Vitamin B12), advantageously in a ratio of about 75:1 (by weight). For example, the composition may comprise 75µg of Folic acid and 1µg of Cyanocobalamin or Cobalamin. This combination has a
10 synergistic effect, and enables administration of B group vitamins at far lower levels than heretofore. The synergistically balanced microdose of the present invention comprises B group vitamins, in general, at levels at least 10 times lower than in most known compositions (with the possible exception of calcium pantothenate, vitamin B5, which is present at levels consistent with those in conventional compositions).

15 Ascorbic acid (Vitamin C) is an essential dietary factor, and is alleged to be effective in preventing the common cold. Deficiency leads to scurvy.

20 Cholecalciferol (Vitamin D3) promotes the absorption of calcium into the bones. A deficiency of Vitamin D3 results in bone deficiency disorders, such as osteoporosis and rickets.

d-Alpha-Tocopherol (Vitamin E) is a nutritional factor. Its main effect is thought to be increasing stability of cell membranes. It has been used to enhance fertility.

25 Antioxidants, including Beta-carotene (Provitamin A) and d-Alpha-Tocopherol (Vitamin E), are associated with lower risks of lung and other forms of cancer, and have been shown to be effective in moderating hypertension and hyperlipidemia, as well as assisting in the chelation of heavy metals such as cadmium which bind
30 cholesterol plaque.

All of the above compositions may also comprise further active ingredients, such as one or more bioflavonoids, Cysteine (optionally in the form of a pharmaceutically acceptable salt, eg Cysteine hydrochloride) or Choline (optionally in the form of a pharmaceutically acceptable salt, eg Choline bitartrate), and customary adjuvants and excipients.

The compositions may be formulated in any appropriate form, such as tablets, capsules, lozenges, emulsions, solutions and suspensions.

It has been found that the combination of vitamins and other active ingredients in the compositions of the present invention has a significant synergistic effect.

Furthermore, the compositions have been found to be effective in stimulating the circulatory system, lowering blood pressure, lowering blood cholesterol levels, chelating cadmium and thereby reversing atherosclerosis, providing protection against cancer, and also aiding recovery from cancer.

Previously known properties of various ingredients of the present composition are described below.

Beta-carotene is a precursor of Retinol (Vitamin A). Retinol is a nutritional factor for growth and maintenance of mucous surfaces, and may also be used topically to treat acne. A deficiency may cause night blindness, dry eyes or stunted growth. The recommended daily dose (RDD) of Beta-carotene is 1-15 mg.

B-group Vitamins assist in relieving stress.

Folic acid or Folate (Vitamin Bc) may be used to treat or prevent vascular disease. A deficiency can lead to anaemia. Administration during pregnancy helps to prevent spina bifida.

Beta-carotene (Provitamin A),
Ascorbic acid (Vitamin C),
Cholecalciferol (Vitamin D3),
d-Alpha-Tocopherol (Vitamin E),
5 One or more amino acid metal chelates,
Echinacea extract,
Gingko biloba extract,
One or more antioxidants, such as Proanthocyanidins,

together with a pharmaceutically acceptable carrier vehicle.

10 According to a second specific aspect of the invention, a therapeutic composition of the present invention comprises the following active ingredients:

Beta-carotene (Provitamin A),
One or more B-group Vitamins,
15 Ascorbic acid (Vitamin C),
Cholecalciferol (Vitamin D3),
d-Alpha-Tocopherol (Vitamin E),
One or more amino acid metal chelates,
Echinacea extract,
20 *Gingko biloba* extract,
One or more antioxidants, such as Proanthocyanidins,

together with a pharmaceutically acceptable carrier vehicle.

25 According to a third specific aspect of the invention, a therapeutic composition of the present invention comprises the following active ingredients:

A plurality of vitamins and/or provitamins, including a synergistic
combination of at least two vitamins from the Vitamin B group;
One or more amino acid metal chelates;
Echinacea extract;
30 *Gingko biloba* extract;
One or more antioxidants;

together with a pharmaceutically acceptable carrier vehicle.

BACKGROUND TO THE INVENTION

Many health food supplements, vitamin preparations etc are currently being marketed, which rely for their effectiveness on the combined effects of the various components.

It has now surprisingly been found that a particular combination of vitamins and other active ingredients has a significant synergistic effect, with the therapeutic effect of the composition being considerably greater than the additive effect of the various components. Furthermore, the compositions as a whole have therapeutic and/or prophylactic effects which are unexpected from consideration of the individual components.

DESCRIPTION OF THE INVENTION

The therapeutic compositions of the present invention comprise the following active ingredients:

One or more vitamins and/or provitamins,

One or more amino acid metal chelates,

Echinacea extract,

Gingko biloba extract,

One or more antioxidants,

together with a pharmaceutically acceptable carrier vehicle.

Vitamins and Provitamins which may be incorporated in these compositions include: Beta-carotene (Provitamin A); B-group vitamins such as Folic acid or Folate (Vitamin Bc) and Cyanocobalamin or Cobalamin (Vitamin B12); Ascorbic acid (Vitamin C); Cholecalciferol (Vitamin D3) and d-Alpha-Tocopherol (Vitamin E). Vitamins A, C and E may also serve as the antioxidants of the present invention.

According to a first specific aspect of the invention, a therapeutic composition of the present invention comprises the following active ingredients:

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